

ABSTRACT OF THE DISCLOSURE

An apparatus and method for determining a correlation coefficient between signals and determining a signal pitch. An operation unit receives a sampled signal $x[i+k]$ and a signal $y[j+k]$ (k is an integer from 0 to $M-1$), applies those signals to a first membership function of a first fuzzy set having large values, obtains a minimum value, obtains a probability $P1$ that the signals have large values, applies the signals to a second membership function of a second fuzzy set having small values, obtains a minimum value, obtains a probability $P2$ that the signals have small values, obtains a maximum value between $P1$ and $P2$, obtains a probability $P3$ that the signals have large or small values, increases k , repeats the above operations for each k , and obtains M probabilities $P3$. An addition unit obtains a correlation coefficient indicating a degree of similarity between the signals by adding M probabilities $P3$.